



only 3 corrected pages 16, 19, 21 are enclosed.

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MARKED VERSION WITH AMENDMENTS. 11 TH NOV. 2003.

SPECIFICATION.

TITLE OF INVENTION: MULTI KNIFE CUTTING DEVICE

~~A. Vertical cutting action~~

~~B. Inclined cutting action~~

~~C. Rotary cutting action~~

~~D. Inclined cutting action-Independent knife movement~~

Embodiment 1 . Rotary action.

Embodiment 2. Independent knife movement.

Embodiment 3. Inclined cutting action..

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REFERENCE: This non-provisional application corresponds to provisional application number 60/ 300,605, dated June 25th 2001.

are brought down and touch the potato top. The center distance between the knives is 8mm. To cut the potato into slices the knives are brought down in quick succession into the slots.

It is also possible to use two outer knives simultaneously without causing over load. It is not advisable to bring down all the knives simultaneously as the potato is large in size, which will cause the knives to bend sideways. This device is safer than single knife as the fingers are away from the knife. The device is also faster as all the knives are ready for cutting and there is no upward stroke for each knife cut separately. The slices are uniform giving better appearance. This device can also be used for cutting of Okra, beans and slices of potato into small pieces by using all knives simultaneously. In this case the knives do not bend as the vegetable thickness is small compared to a whole potato. This device can be classified as multi purpose as the knives can be used separately or simultaneously depending on the thickness of the item being cut.

Improvements : The mounting of knives without using a separate knife frame reduces the load arm of the lever. The knife guiding is continuous as part of the knives are in the slot of the guide from the starting position, which results in trouble free cutting. The guide slots stop the cut pieces from traveling with the knives, when the knives go below the top surface of the guide with slots at the end of cutting stroke.

EMBODIMENT 3. MULTI KNIFE CUTTING DEVICE. INCLINED CUTTING ACTION.

This embodiment was first described in my letter to you on 30 th Jan 2003, requesting you to inform the procedure for it's inclusion. Then it was named Multi knife cutting device, inclined cutting action. I have written more on this in my introduction to the present amendments.

This is the best mode considering compactness, and versatility in operation.

Fig.no. 7. Elevation view, knives horizontal, dotted lines show knives vertical position.

Fig.no. 8. End view of base cum guide without knives, direction A fig.7.

ii) Multi-cut device with frame but without levers.

The knives are assembled in a frame as in Device A part 1,2,3 and used in conjunction with a board but without telescopic guides or levers. Effort required is more with this device.

Device A lever mechanism can be modified to that of an eccentric mechanism which can be mounted on top of part 1, supported by angles screwed to base part 13.

A power drive can be devised by connecting a motor with gearbox to the eccentric mechanism.

The description of three embodiments in the preceding pages is considered as an illustration of the design principles of the invention and is not an exhaustive collection of all the variations.

The invention is not limited to the three embodiments described in this application. All feasible modifications and variations within the scope of the invention may be resorted to in due course.

Illustrative variations are :

Attachment of a board to the inclined action embodiment in level with the vegetable enclosure to support the extra length of the vegetables ;

Using the above embodiment with the knives stationary and the base cum guide moving against them for the cut ;

Changing the number and size of knives ;

Using double edged knives with vegetable enclosures on either side of the knives ;

Converting the inclined motion of the knives into vertical motion using telescopic guides between the knife assembly and the base cum guide ;

Motorizing the lever action of embodiment using reduction gear box;

Introducing spring return mechanism to the lever element.

ABSTRACT OF THE DISCLOSURE

The invention relates basically to cutting vegetables efficiently either at home or in commercial establishments. It can also be used for other fibrous materials where practical. The aim is a low cost solution for an efficient device.

The new element is that of using several knives simultaneously without holding them in the hand except in Device C. Also the vegetables are not held by hand during cutting. These are excellent safety features. Such a device is not seen in the market.

The important and novel feature of this invention is the use of slotted platform to eject the cut pieces from between the knives during the cutting process. Without this feature the device becomes clumsy and unusable.

One more new element is that the knives do not touch the board in Devices A and B. They are maintained at a distance of 2 mm above the slot bottom. This saves the board from knife marks and also damages to the knife edge.

Also the device reduces the pressure on the hand though using several knives, because of the use of lever action in devices A and B.

The invention comprises, a guide cum base, an assembly of six knives and a connection mechanism to form a multi knife cutting device.

The improved features are :

Elimination of knife frame, increasing mechanical advantage,

Positive guiding to the knives minimizing buckling and misalignment,

Design of knife slots to prevent cut pieces from remaining between the knives,

Elimination of vegetable sliding,

Flexible selection of the knives to suit whole potato or French beans which offer different resistance.